Express Mail No. EJ697626763

I claim:

1. A method for cross-coupling an aryldiazonium salt and an arylsilane, comprising:

(a) mixing the aryldiazonium salt and the arylsilane in the presence of a catalyst comprising palladium; wherein the aryldiazonium salt comprises $ArN_2^+ X^-$, wherein X^- is a monovalent anion; wherein Ar is aryl; and wherein the aryl silane comprises $Ar'\text{-}Si(L)_3$; wherein Ar' is aryl; Ar' and Ar may be the same or different; L is selected from the group consisting of $-CH_3$, $-OCH_3$, -F, -Cl, R, and -OR; wherein R denotes a C_2 to C_5 alkyl group; and wherein the three L substituents may be the same or different; and

(b) reacting the aryldiazonium salt and the arylsilane for a time and at a temperature sufficient to allow formation of the cross-coupled product Ar-Ar'.

2. A method as recited in Claim 1, wherein said reacting occurs in a solvent comprising water, methanol, or ethanol.

3. A method as recited in Claim 1, wherein the catalyst comprises palladium (II).

4. A method as recited in Claim 1, wherein the catalyst comprises palladium (II) chloride.

5. A method as recited in Claim 1, wherein the catalyst consists essentially of palladium (II) chloride.

6. A method as recited in Claim 1, additionally comprising the step of recovering the cross-coupled product Ar-Ar' from the reaction mixture.

7. A method as recited in Claim 1, wherein X is selected from the group consisting of BF_4, Cl, F, SO_3CH_3, CO_2CH_3, PF_6, CO_2CH_3, and ClO_4.

8. A method as recited in Claim 1, wherein the reaction mixture is essentially free of fluoride.

9. A method as recited in Claim 1, wherein X is BF_4, and wherein the reaction mixture is essentially free of fluoride from any source other than the BF_4^- anion.